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ABSTRACT

This study provides a description of a program initiated in 1980 by the Maryland State Education Agency (SEA). The School Improvement through Instructional Process (SITIP) program presents data for a study involving educators in 19 of 24 local education agencies. The SITIP design includes nine areas of activity: (1) SEA preparation; (2) building local commitment; (3) conducting awareness training; (4) local planning involving the submission of proposals based on SEA guidelines concerning issues to be addressed, such as the deciding factors in the selection of schools, curriculum areas, and implementation strategies (including the lighthouse school strategy and feeder school strategy); (5) implementation; (6) dissemination; (7) SEA technical assistance; (8) followup training by SEA staff; and (9) assessment of program and impact. The data are examined in terms of participation, participant evaluation of activities initiated by the SEA, comparison of initial proposals and Promising Educational Practices Submittal plans, and the relationship of planning to training and implementation. A figure of the SITIP design and a table showing the SITIP chronology of events are provided. (PB)

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PLANNING: ITS EVOLUTION THROUGH KNOWLEDGE UTILIZATION

Paper presented at the annual meeting
of the American Educational Research Association
Montreal, Canada, April 1983.

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Introduction

This paper discusses planning as an interactive process with other activities in relation to a statewide program of instructional improvement. The program -- School Improvement Through Instructional Process (SITIP) -- was initiated by the Maryland state education agency (SEA) in late 1980, with local implementation beginning in the fall of 1981. Four research-based instructional processes were selected: Active Teaching, developed by Good and Grouws; Mastery Learning, developed by Bloom and Block; Student Team Learning, developed by a team at Johns Hopkins University; and Teaching Variables, developed by a team at Research for Better Schools. Educators hoped that implementation of one or more of these innovations would improve teachers' effectiveness and increase student achievement.

SITIP is a voluntary program which encourages cross-hierarchical participation in all phases; provides support to local education agencies (LEAs) in the form of training, assistance, and small grants; and recognizes that successful implementation of innovations is influenced by many factors -- not the least of which is local commitment which is related to a sense of ownership generated during planning. From the LEA perspective, the literature on planning states that this activity is "context bound" and "situationally oriented" (Lotto, et al., 1980) requiring adaptability that reflects political realities and also allows for the flexibility needed at the level of implementation (Boyd & Crowson, 1981). This suggests a need for open-systems planning. However, many LEAs traditionally develop plans with a product orientation, rather than engage in planning with a process

orientation. Also, local plans developed in response to SEA initiatives may not result in implementation (but only in a lip-service compliance). Therefore, Maryland's program, while focusing on the substance of the classroom improvement strategies to be adopted, engaged participants in an evolving planning process which facilitated the improvement of plans as knowledge of the program increased, and which was designed to lead to real implementation.

Evaluation Design

By examining the activities of staff of the Maryland SEA and of educators in 19 of the 24 LEAs, we attempt to answer the following questions:

- What were the SEA policies and practices influencing LEA planning?
- How did LEA staff plan?
- What were the major characteristics of local plans?
- How did local plans and planning processes change over time?
- What were the relationships among planning, training and implementation?

Data were collected between December 1980 and June 1982 by process observation of SEA meetings and formal SEA-initiated events, site visits to schools and district offices, interviews, questionnaires, and a general survey. In addition, program materials and all local plans were analyzed (original and revised versions); assessment was made of the extent to which implementation matched plans; and attendance records were analyzed to determine role group participation (sustained over 18 months). Critical events included awareness conferences, summer workshops, follow-up seminars, and spring and fall planning sessions.

Of the 24 counties (LEAs) in Maryland, 19 were involved in the program, all of which provided data and eight of which were also involved in site visits by the researchers. Data were collected from over 50% of the local educators involved. (Total numbers in the program were: nearly 700 teachers, over 65 school administrators, over 20 central office staff.)

Qualitative and quantitative data were analyzed by topic, by county, and by role group for each key process -- training, planning, and implementation.*

Results

While the focus of this paper is on local planning, it is also necessary to review SEA activities since the interaction between the two organizational levels (state and local) was highly influential. Therefore, results are first presented within the chronological framework of the SITIP design.

SEA Initiatives and LEA Activities

The SITIP design is presented in Figure 1. The nine areas of activity included six that are fairly common in educational change efforts: 1) SEA preparation, 2) building initial local commitment, 3) conducting awareness training, 4) local planning, 5) implementation, and 6) dissemination or expansion. In addition, SEA staff provided technical assistance (including on-site coaching), follow-up training, and assessment of progress and impact (conducted by a third party using an action research model to allow

*For a full report of the complete study, see Roberts, J. M. E., Kenney, J., Buttram, J., & Woolf, B. Instructional improvement in Maryland: A study of research in practice. Philadelphia: Research for Better Schools, Inc., 1982. (Also submitted to ERIC.)

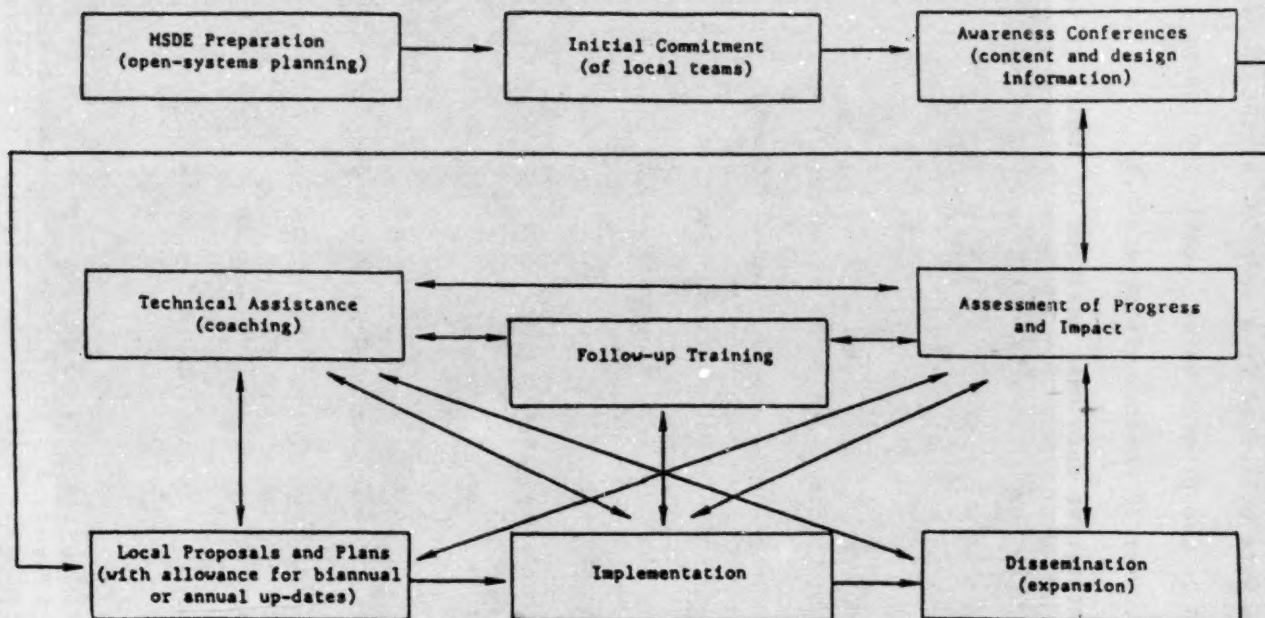


Figure 1. The SITIP Design: An Interactive Model for Program Improvement

for regular and frequent review of data with appropriate program revisions). These activities were interactive, as is illustrated by the chronology of events summarized in Table 1. The discussion that follows reviews SEA initiatives directly related to local plans and planning, and local responses to those initiatives.

Preparation and commitment. Influenced by the research on planned change which indicates the desirability of cross-hierarchical participation in planning and implementation, with involvement of members sustained over time, the SEA asked LEA superintendents to make certain commitments such as: 1) attendance at all four awareness conferences by up to eight persons from each LEA including a board member, some central office staff, a principal, and teachers from the same school as the principal; 2) submission of a local proposal to implement one or more of the innovations if there was sufficient local need or interest; 3) attendance by local team members at key events initiated by the SEA to facilitate implementation, once the SEA approved support for a local plan; and 4) actual implementation of the innovation as planned (including evaluation), for LEAs choosing to participate.

Of the 24 LEAs, 20 expressed interest in SITIP and sent teams to the awareness conferences. Subsequently, 19 submitted proposals and implemented selected innovations.

Request for proposals. Following the four awareness conferences, the SEA invited LEAs to submit non-competitive proposals for adoption and implementation of one or more of the four instructional processes. Districts were provided with proposal development guidelines that contained eight

Table 1

**SITIP Chronology of Events
December 1980 - September 1982***

Activity Area	SEA Activities	LEA Activities	Dates
Planning	Preparation/program design Invitation for local commitment	Review, response of commitment	July - October 1980 October - November 1980
Training	Four awareness conferences	Attendance of teams at awareness conferences	December 1980 - Feb. 1981
Planning	Request for local proposals	Submission of proposals (19 LEAs)	March - April 1981
Assessment	Analysis of local response to conferences and of proposals		April 1981
Planning	Four spring planning sessions	Attendance at spring planning sessions	April - May 1981
Assessment	Analysis of local response to spring planning sessions		May 1981
Training	Four summer institutes	Attendance at institutes	June - July 1981
Planning	Fall planning session	Attendance at session, revision of plans	September - November 1981
Technical Assistance	Follow-up training sessions (1 or 2 per innovation) plus on-site coaching etc.	Attendance at follow-ups	Sept. 1981 - June 1982
Implementation		Use of one or more innovations (19 LEAs)	Sept. 1981 - June 1982.
Assessment	Analysis of progress to date	Review of findings	Oct. 1981, then monthly. August 1982
Planning	Invitation to update or refine plans	Revision of plans (plus inclusion of 5 more LEAs)	August - September 1982

*SITIP: School Improvement Through Instructional Process. The SEA supports local implementation through June 1983, with on-going training, technical assistance, and assessment. However, this report relates only to activities up to the beginning of the 1982 school year.

issues to be addressed in the local school district submissions: 1) deciding factors in selection of schools, 2) deciding factors in selection of curriculum areas, 3) deciding factors in selection of implementation strategies, 4) evaluation criteria or methods, 5) analysis of Year 1 implementation tasks, 6) progress monitoring procedures, 7) dissemination procedures for Year 1 results, and 8) budget. Proposals were submitted to MSDE by 19 districts by mid-April. All districts applying for SITIP funds were awarded monies for local projects.

Twelve of the 19 districts (63.15%) elected to implement only one of the four innovations; the remaining seven districts (36.85%) decided on combinations of two or three of the innovations. The most selected innovations were Teaching Variables (47.37%) and Student Team Learning (42.11%). Districts proposed implementation for all curriculum areas with a focus on basic skills. Three LEAs proposed implementation only in elementary grades, two only in junior high schools, five only in senior high schools. The remaining nine LEAs proposed to involve both elementary and secondary grades.

Nine criteria were identified by local school districts as influential in their selection of schools. Approximately two-thirds of the districts (68.42%) selected schools in which to implement SITIP on the basis of staff commitment. A third of the districts (36.84%) considered particular features or characteristics of individual schools (context). Other factors included the school's participation in the awareness conferences (15.79%); the relevance of the selected innovation to identified needs (15.79%); availability of necessary resources (15.79%); and the potential for research or dissemination (31.58%).

Seven factors were identified by school districts in their selection of curriculum areas to be included in SITIP. Over two-fifths of the districts (42.11%) indicated that their selection was influenced by the district's identification of student needs in particular curriculum areas. Staff interest and availability contributed to the selection of curriculum areas in approximately one-fourth of the districts (26.32%). Other factors identified by districts included: original SITIP presentation at the awareness conference addressed the selected curriculum area (15.79%); the incompleteness of available research in selected curriculum area (5.26%); the compatibility of the selected curriculum area with the chosen innovation (10.53%); and characteristics of the curriculum area organization in the selected school (10.53%).

Four implementation strategies were described in LEA proposals:

- The lighthouse school strategy, selected by 68.42% of the LEAs, focuses implementation in a single school. Success may be broadcast informally and additional schools may elect to adopt the innovation, but no formal commitment is made by central office staff to actively encourage or train others.
- The feeder school strategy, selected by two LEAs (10.53%) begins with a lighthouse site then expands up through grade levels as the initial student population progresses.
- The capacity building strategy, selected by two LEAs, is essentially a staff development approach which encourages voluntary implementation following training conducted by staff first involved in SITIP.
- The pilot/district strategy, selected by two LEAs, involves one or a few schools in the first year, with commitment from central office staff to become actively involved in dissemination/implementation to many more schools in subsequent years if the the pilot sites experience success.

One LEA did not specify a strategy. In general, plans suggested limited scope and intensity of implementation.

Evaluation procedures included verification/observation by administrators (60.42% of the LEAs) and use of standardized tests (63.16%). Other techniques included surveys of teaching staff (42.11%), progress update meetings or reports (42.11%), surveys of participating students (31.58%), teacher-constructed testing of student performance (26.32%), analysis of various student indices such as attendance, discipline referrals, or grades (15.79%), and parent or community surveys (10.53%). Approximately two-thirds of the districts proposing to implement Teaching Variables planned to examine changes in time-on-task data.

In general, the initial local proposals did not appear to reflect sufficient understanding of the complexity or particular demands of selected innovations to suggest successful implementation.

Spring planning. In May 1981, four planning sessions were held to determine the agendas for the summer training institutes: a separate planning session was held at the site of its summer institute for each of the four innovations. The participant group at each planning session consisted of LEA personnel who would be involved in the implementation of that particular innovation. LEAs that submitted SITIP proposals to implement more than one instructional process attended all appropriate planning sessions. Planning sessions were directed by MSDE staff that had responsibility for organizing and directing the summer institutes; the actual SITIP training consultants did not attend the planning sessions.

All four planning sessions followed the same basic four-hour agenda: 1) LEAs each reviewed their own proposals; 2) MSDE staff reviewed the SITIP design, the four innovations and the objectives of the summer institutes;

and 3) participants worked in small groups to review their own knowledge base and determine content and process needs to be addressed at the summer institutes. This information was subsequently shared with consultants responsible for the summer training.

Participants' ratings of the four planning sessions were generally positive, providing strong evidence that there was adequate opportunity for people to share their concerns about the innovations and to indicate what they hoped to gain from the summer institutes. The Mastery Learning planning session, in particular, received high ratings while the Teaching Variables planning session was not as successful. Participants at all four sessions were pleased with the opportunity to share their concerns about SITIP. However, except for Mastery Learning participants, they consistently rated their understanding of the objectives of the planning sessions prior to attending relatively low, suggesting that more communication was needed about upcoming SITIP activities.

Counties generally did not send a team composed of participants as recommended by MSDE to the planning sessions. Of the two planning sessions for which that kind of participant attendance data were available, only four out of thirteen counties sent a team of at least one teacher, a principal, and a central office supervisor.

A cross-tabulation analysis of attendance at awareness conferences and planning sessions revealed that generally more than half of those who had attended a particular awareness conference had also attended the related planning session. Participants of the Active Teaching planning session demonstrated the highest incidence of joint participation, as 94% also participated in the awareness conference.

The major purposes of the planning sessions were accomplished. This included developing a list of identifying the concerns, problems, and questions of LEA staff related to their selected instructional process in order that they be addressed during the summer institutes.

Fall planning session. In September 1981, MSDE asked representatives of the LEA teams to meet to rewrite their original proposals according to a common format. Three factors influenced the decision to conduct the September meeting: 1) as a result of greater understanding provided by the summer institute training, several LEAs decided to revise their plans; 2) county office and SEA staff were interested in knowing what each LEA planned to do, and wanted information presented systematically and more comprehensively than had been done in the initial proposals; and 3) MSDE staff assigned as technical assistants (TAs) wanted an opportunity to meet and plan with LEA staff for local implementation and follow-up activities.

The format for the plans was the Promising Educational Practices Submittal (PEPS) form designed by MSDE staff involved in Title IVc programs. This single page form required basic identification information, and then statements relating to: purpose, target population, general description of program activities, staff development, evaluation, resources or services available to other LEAs, and budget.

At the fall planning session, following a review of the PEPS form, participants divided into groups, each led by two SEA staff assigned as TAs for that innovation. Time was then spent refining or revising local plans and planning follow-up training and assistance activities.

Final PEPS forms were subsequently submitted to the SEA, duplicated, and distributed to all LEA superintendents.

Although LEAs had been asked to send three-person cross-hierarchical teams to the fall planning session, most sent fewer than three people, and several participants had not attended previous events. About half of the active implementers surveyed in June 1982 had attended the September planning session, 54.95% of whom were teachers, 27.47% school-based administrators, and 17.58% central office staff.

Analysis of final plans (PEPS). PEPS forms were analyzed to determine the extent to which plans had been refined or revised. Preliminary analyses focused on the areas of information specified on the form: purpose, target population, content areas, general program, staff development, evaluation, and dissemination.

The majority of school districts stated that the SITIP project was adopted for the purpose of improving classroom management and instruction in order to increase student achievement. Of the 19 counties, 14 stated explicitly that the purpose was to impact student achievement. The remaining five LEAs expected to impact teacher behavior to varying degrees through staff development and aimed more for general instructional improvement, although student achievement was implied.

The target population and content areas did not change much. Across all innovations basic skills subjects were the most common focus: mathematics selected by ten LEAs, language arts selected by eight, and reading by four. Ten counties included elementary grades (grades 1-5) in their plans and 14 included secondary grades (grades 6-12), with five counties including both elementary and secondary grades and five focusing exclusively on senior high school (grades 9-12).

The general program descriptions included reference to the innovations to be implemented, implementation strategies, scope and intensity. Four of the 19 LEAs elected to implement more than one innovation. Of those four, two chose to implement three innovations and two LEAs each chose to implement two innovations. Active Teaching was selected by five LEAs; Mastery Learning was selected by six LEAs; Student Team Learning was selected by eight LEAs; Teaching Variables was selected by six LEAs, one of which planned to use it in conjunction with Active Teaching and another planned to use as a monitoring or back-up system for Mastery Learning. Three LEAs decided not to implement Teaching Variables as originally planned.

Of the original implementation strategies, three were retained. The "feeder school" strategy was dropped. A fourth strategy -- district-wide for all elementary classes -- evolved. Selection was as follows: 1) the lighthouse strategy was planned for eleven LEAs (two of which used other strategies for different innovations); 2) the pilot/district strategy was planned for four LEAs (one of which also used the lighthouse strategy for another innovation); 3) the capacity building strategy was planned for five LEAs (one of which also used the lighthouse strategy); and 4) one LEA planned to use the district-wide strategy.

Planned scope ranged from all (over 400) teachers in all (26) elementary schools using an innovation for mathematics for half the school year, to two classes in a single school using an innovation for reading for half the school year. Where the focus was on staff development as many as 1,000 teachers were to be offered training with a hope that 500 would try the innovation sometime over the two-year implementation period, to as few as 10% of the teachers in one school trained and encouraged to use the innovation.

In almost all cases, plans indicated that LEAs would conduct some orientation and inservice activities during the 1981-82 school year. Educators who had attended the summer institutes conducted by the SEA were designated as turnkey trainers, with teachers or central office staff more likely to take the role than principals.

Descriptions of evaluation procedures were more specific on the PEPS forms than in the original proposals, with almost all LEAs planning to measure change in student achievement either through standardized or teacher-made tests. Other methods were clarified. Three sites planned to use Teaching Variables as an evaluation method.

In response to the question of dissemination, most LEAs stated that they would share information with interested others, but much depended on the first year's results.

The PEPS format allowed for greater detail and uniformity among plans than had the original format. However, there were still differences among LEAs in terms of the quality and amount of information provided. The greatest weakness related to evaluation

Discussion

The discussion that follows is based on comparative analysis of various data. The following areas are examined: participation, participant evaluation of activities initiated by the SEA, comparison of initial proposals and PEPS plans, and relationship of planning to training and implementation.

Participation

The SEA encouraged LEAs to involve representatives of all three role groups (teachers, school administrators, and central office staff) in

planning activities.* In all LEAs for all topics, all three role groups were involved in planning to some extent. Of the 206 active implementers (surveyed June 1982), 65.05% had been involved in at least one planning activity. Of the 134 active implementers who had been involved in planning, 50.72% were teachers, 20.9% were school administrators, and 18.66% were central office staff. Involvement in two or more planning activities was reported by 44% of the central office staff, 85.71% of the school administrators, and 50% of the teachers.

When data were examined by topic by county, a few instances were found where the nature and extent of participation in planning activities was such that implementation problems might be anticipated. The seriousness of such problems was largely dependent on the nature of the local plan. For instance, if an LEA had a pilot/district or district-wide strategy, it was more important for all role groups to be involved in planning than if the strategy focused on a single school with no intention of expansion to a large number of sites. In general, if the LEA intention was for eventual implementation (and institutionalization) by many teachers in several schools, it was considered necessary for at least one representative of each role group to have been involved in at least two of the three planning activities. It was preferable for individuals to sustain involvement. The discussion below identifies the extent to which representation occurred by innovation, then by role. Implications are then reviewed.

*The three planning activities were: initial proposal development, attendance at the spring planning session(s), and attendance at the fall planning meeting.

- For Active Teaching (AT), 52.17% of the active implementers surveyed were involved in at least one planning activity. In two counties teacher representation was inadequate*; in one county school administrators were insufficiently represented; and in another central office staff were relatively uninvolved.
- For Mastery Learning (ML), 62.66% of the ML active implementers surveyed were involved in planning. Teacher and school administrator representation was inadequate for one LEA, and central office representation was inadequate for two other LEAs.
- For Student Team Learning (STL), 72.41% of the active implementers surveyed were involved in at least one planning activity. Both school administrator and central office representation was inadequate in two LEAs, and in three other LEAs central office representation was inadequate.
- For Teaching Variables (TV), 77.77% of the active implementers were surveyed involved in at least one planning activity. Teachers were inadequately represented in two LEAs, school administrators inadequately represented in another two LEAs, and central office staff inadequately represented in two LEAs (one of which also had underrepresentation for teachers).

With the exception of AT (where only 12.5% of proposal developers were teachers), approximately equal numbers of each role group were involved in proposal development for each topic. Again with the exception of AT, teachers outnumbered other role groups at the spring planning sessions. At the fall planning, teachers outnumbered other role groups for all topics except TV.

Lack of teacher representation in planning -- for any topic or implementation strategy -- required other LEA staff to spend energy on communication and commitment-building to bring about successful implementation. This occurred in four LEAs, one of which needed to do this for two topics.

*Inadequate = role represented at only one, or none of the planning activities.

Lack of school administrator representation occurred in six LEAs -- in three cases resulting from reassignments and requiring other LEA staff to orient new principals. In one case, it was relatively unimportant since a teacher-coordinator provided school leadership. In two cases (both STL) the burden of implementation was placed on teachers, with -- in one of the two LEAs -- training and support the responsibility of central office staff.

Central office staff were under-represented in six LEAs, three of which planned multiple topic implementation. Two of those LEAs had lighthouse school strategies requiring little involvement of central office staff, and the third had a lighthouse strategy for one topic and a capacity building strategy for the other, both with school-based coordinators. In the other three LEAs, two had lighthouse strategies with school-based coordinators, but the third had a capacity building design which did require central office staff involvement. In that county, low participation by that role group in planning predicted some implementation problems.

Overall participation patterns (looking at both planning and training activities) in the context of local plans, indicated that eleven LEAs would have no implementation problems caused by inappropriate representation. Attention to teacher commitment might be needed for AT in two LEAs, ML in one LEA, and TV in two LEAs. School administrators in at least one county involved in each innovation might need information and encouragement to support their teachers. Attention to central office staff involvement might be needed for STL in two LEAs. Only in three counties was participation

such that, when combined with factors such as staff reassignment, and examined in the context of local plans, problems of implementation would put a heavy burden on one particular role group.

Participant Evaluation of Planning Activities

Only the spring planning sessions were formally evaluated by participants. Overall means (on a five-point scale on six criteria) ranged from 3.79 (TV) to 4.53 (ML), indicating that, in general, participants considered that the session activities satisfactorily met their objectives. The weakest point (with the exception of ML) was that participants had not fully understood session objectives beforehand. The strongest point was that participants felt that they had adequate opportunity to express interests and concerns that should be addressed at the summer institutes.

Data were collected by observation and interviews from participants of the fall planning session and central office staff who did not attend but were involved in rewriting local plans. In several cases local educators considered the task of rewriting, using the ZEPS format, a waste of time and thought the activity to be political rather than practical. However, most people involved in planning recognized that one-page summaries using a common format would provide the information requested by LEA superintendents. Participants of the fall planning session benefited most from the opportunity to clarify their own plans (especially when there had been staff reassignments) and to share ideas with other LEAs. They also appreciated the opportunity to suggest ideas and schedules for follow-up activities.

Comparison of Initial Proposals and PEPS Plans

Since the information requested and provided in the initial proposals differed from the PEPS proposals, comparisons could only be made in three areas: selection of innovations, scope and strategies of implementation, and evaluation procedures.

Innovations. Four counties made changes from the initial proposal to the PEPS form: three deciding to implement a single innovation instead of a combination including Teaching Variables. Another retained Teaching Variables as a support to Mastery Learning. The complicated coding procedure used to measure time-on-task, the time required to make classroom observations, and the possibility of negative teacher reactions to the observational process were some of the reasons counties decided against using the Teaching Variables process.

Scope and intensity. The PEPS plans gave greater depth of information than did the initial proposals and in some cases comparisons are difficult. However, some general comparisons can be made.

In curricula there was much less specificity in the spring than there was in the fall. In the former case, 12 LEAs used general terms such as basic skills (4), any or all subjects (5), and all basic academic subjects (3), while in the fall plans only three LEAs suggested that any/all subjects would be addressed. References to specific subjects increased from the spring to the fall plans:

- mathematics -- from 6 to 16
- language arts -- from 4 to 10
- science/biology -- from 3 to 6
- social studies -- from 1 to 6.

Reading, mentioned by four LEAs in the spring, was mentioned by four in the fall. Nutrition was dropped, and foreign language and special education were added.*

No changes were made in grade levels selected by nine LEAs. Six LEAs' fall plans had fewer grade levels involved than initially, five counties eliminating one or more elementary grades and one county going from all grades to grades 1-4. Two counties added senior high school grades, and one county -- for staff development -- offered to involve all grade levels instead of the initial K-5 planned.

Strategies. Strategies of implementation were much more clearly explained in the PEPS, but only at six sites were strategies actually changed. Three counties changed from a lighthouse school strategy to the pilot/district strategy which means that if the process is successful in the first school, other schools will be actively encouraged by central office staff to become involved. Two LEAs changed from a feeder school strategy to capacity building in which staff are trained and then conduct training for others. One LEA changed from building district capacity to a lighthouse school.

Since the original plans did not give details of scope, little comparison can be made in terms of instructional time spent on using SITIP. Both

*It should be noted that for Active Teaching, Mastery Learning, and Teaching Variables, developer/presenters advocated use for basic skills. Active Teaching presentations focused almost exclusively on mathematics. In Mastery Learning, a brief reference was made to science. In all three cases, it was stated that the innovations are most appropriate for structured curriculum.

original and PEPS plans suggested two years of implementation beginning in September 1981.

Evaluation procedures. The majority of counties reduced the number of evaluation procedures planned in the PEPS proposal. Twenty-six percent of the counties added new techniques, 68% eliminated planned techniques, and one LEA remained unchanged. Verification by principals or supervisors, and standardized and teacher-made testing remained the most popular. In general, evaluation designs, methods and measures were relatively simple in both sets of plans. Most data collection on impact was planned for the second year of implementation.

Relationship of Planning to Training and Implementation

By the end of the first year of local implementation, LEAs had been involved in the three SEA-initiated planning activities, three SEA-initiated training activities*, and on-site assistance as needed provided by SEA staff. All 19 LEAs did implement one or more of the innovations although some reduced planned scope. The following findings are of particular interest:

- At state and local levels plans evolved as participants gained new knowledge. Objectives and implementation strategies (as specified in the fall of 1981) remained constant, but changes were made in scope and selection of innovations.
- Local proposals written after the four awareness conferences (April 1981) did not reflect sufficient understanding of the innovations to suggest successful implementation.

*Training included: initial awareness conferences at which innovations were reviewed by their developers, three-day summer institutes to provide indepth training, and follow-up conferences to meet specific local needs. Some LEAs also sent representatives to a leadership conference on teacher effectiveness and staff development presented by Barak Rosenshine and Robert Bush.

- Summaries of plans (revised or clarified) after the summer training (fall 1981) reflected much greater knowledge of the innovations and resource requirements for implementation.
- Involvement in planning was encouraged for all three local role groups (teachers, school-building administrators, central office staff). There were three key planning activities: proposal development, participation in spring planning sessions conducted by MSDE, and participation in fall planning sessions (all in 1981). Eight LEAs involved all three role groups in at least two of the activities for a given innovation: none of those sites experienced subsequent communication problems.
- Low involvement in planning by central office staff caused problems (two LEAs -- school staff discontent) only when there was no common understanding of: 1) the implementation strategy and its implications, or 2) leadership responsibility for assisting teachers.
- Low involvement in planning by school-based administrators (four sites) caused no apparent problems. (They were kept informed by central office staff and teachers.)
- Low involvement in planning by teachers occurred at five sites, with problems (overload and resistance) in two cases where innovation demands were high and teachers' personal concerns were not addressed early enough in implementation.
- Selection of innovations was influenced initially by the perceived relationship between an innovation and local interest. As participants learned more about the innovations some revised selection. (Four LEAs eventually dropped Teaching Variables.) The reason for revision was complexity: LEAs were unwilling to invest the time and energy required by such a complex innovation.
- Implementation strategies determined by LEAs included: 1) district wide (involving all teachers in all elementary schools in one LEA), 2) pilot/district (used by four LEAs, using an innovation in one or a few schools in the first year with central office commitment for involvement to expand in the second year), 3) capacity building (encouraging voluntary participation through staff development in five LEAs), and 4) a lighthouse strategy (single school implementation with voluntary involvement of others attracted by the "light of success," but no direct commitment for central office involvement in ten LEAs).
- Selection of school sites was influenced most by staff interest (68% of LEAs gave this reason). Other criteria identified by LEAs included: school characteristics (36%), school staff attendance at awareness conferences (15%), relevance of an innovation to school need (15%), availability of resources at school (15%), and potential for research at the school (15%). All grade levels and types of schools were involved, with about 75% of them elementary.

- Selection of curricular areas was influenced by: level of student achievement (42%), staff interest (26%), relevance of innovation to curriculum area (20%), characteristics of organization of curriculum in selected school (10%). The most popular curricular areas were: reading/language arts (17 LEAs), mathematics (16 LEAs), science (12 LEAs), and social studies (11 LEAs).
- Scope (number of schools, teachers, amount of time for use of the innovation etc.) was not clearly defined initially, was clarified after summer training, and modified during implementation at seven sites.
- Scope was largely determined by the strategy selected, and reflected local commitment or felt need. Scope was influenced by innovation complexity, with wider scope more feasible for less complex innovations.
- Incremental knowledge building with a series of interactive training and planning activities helped to build an accurate understanding of the innovation's complexity and potential rewards, and allowed revision or refinement of plans.
- During the first year, once implementation began the innovation was usually not adapted and the strategy did not change.
- Changes made during implementation sometimes reduced scope in order to maintain quality without stressing resource allocations.

The findings suggest that designs or plans for instructional improvement are most likely to be successful if: 1) participation (of organizations) is voluntary, 2) communication is multi-dimensional, 3) planning is interactive with training, 4) training and technical assistance are provided during implementation, 5) "lip service compliance" is not accepted as implementation, 6) adjustments of scope are considered legitimate and relate to resources available, and 7) each participant has some degree of choice about his or her involvement (nature or extent) in the effort. These elements were present in SITIP.